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ABSTRACT

One of the results of almost 2 decades of research and theoretical development in the area of professional socialization has been the focusing of interest on the evaluation of interpersonal influences upon students in professional schools. Based on data from the first 2 years of a 6-year longitudinal study of students at a new dental school, this paper deals with relationships between students and other significant persons in the educational environment, especially the faculty. Particular emphasis is placed on a comparison of students' initial professional attitudes with those of the faculty and the modification or reinforcement of students' views over time. Also examined are the relationships between students' professional orientation and (1) self-conceptualizations and (2) levels of academic performance. (Author/HS)

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INNOVATION AND THE PROFESSIONALIZATION PROCESS: AN ANALYSIS OF DENTAL EDUCATION*

Larry A. Platt and Roger G. Branch

One of the results of almost two decades of research and theoretical development in the area of professional socialization has been the focusing of interest on the evaluation of interpersonal influences upon students in professional schools. Based upon data from the first two years of a six-year longitudinal study of students at a new dental school, this paper deals with relationships between students and significant others in the educational environment, especially the faculty. Particular emphasis is placed on comparison of students' initial professional attitudes with those of the faculty and the modification or reinforcement of the students' views over time. Also examined are the relationships between students' professional orientations and (1) self-conceptualizations and (2) levels of academic performance.

RATIONALE

The term "professionalization" has been defined in two ways by occupational sociologists. First, it has been used to refer to the process by which an occupation evolves into a profession (Caplow, 1954; Wilensky, 1964). The second definition concerns the socialization process by which an occupational

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neophyte becomes a professional man. It focuses upon the adoption by individuals of the ideology, motives, and behavior patterns which are appropriate for a professional (Merton, et al., 1956; Lortie, 1959; Quarantelli and Helfrich, 1967; Gottlieb, 1961; Rosinski, 1963). The second definition will be adopted for this discussion, referring specifically to the development of a professional orientation by students in a particular educational setting.

This conceptualization of professionalization reflects a broad and multifaceted process. It is described by Quarantelli and Helfrich (1967) as being one in which

> ". . . the context of the professional school necessarily creates situations that make the student consider and reconsider, among other things, his ideas about himself, the people with whom he interacts and his activities."

In a similar vein, Lortie (1959) treats professionalization in terms of acquiring the technical skills of the occupation, learning professional values, adopting appropriate behavior patterns in interaction with others and developing professional self-identity through interaction processes. Thus, professionalization involves adopting a complex set of social definitions of self, peers and the occupation and learning the occupational skills and interpersonal behavior patterns appropriate for the profession.

This paper will be limited to an exploration of selected aspects of professionalization. It will focus upon the adoption of the occupational ideology as reflected in attitudes toward the profession. As indicated earlier, the standard for what constitutes an appropriate occupational orientation will be views promulgated by the socializing institution, in this case a particular dental school. The second aspect to be examined is the development of professional self-identity by the students.

The first issue to be investigated is whether or not the subjects of the study have actually undergone any significant degree of professionalization.

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Becker (1961), Lortie (1959), Quarantelli and Helfrich (1967) and others have contended that students in professional schools retain their student-trainee roles and self-conceptions to the end of their educational careers. This view contrasts with the conclusions of Merton, et al., which indicate that medical school subjects from that study developed a professional orientation prior to the end of their training. Thus, the professionalization issue remains a lively research question for the present investigation.

The next research question is what factors have influenced or been associated with changes in occupational orientation. For example, earlier studies (Merton, et al., 1957; Becker and Carper, 1956) indicate that such significant others as faculty and peers exert definite influence upon students either to facilitate or to retard professionalization. Therefore, certain aspects of interpersonal influences upon professionalization are explored in this study.

Others who have studied the professionalization process, notably Ham (1958) and Moore (1970), emphasize the influence of the environment created by the socializing agency. The professional school structures its students' learning experiences and directly or indirectly creates the social milieu in which the learning occurs. At this point the research setting for the present study becomes an important issue. The investigation is being conducted at a new school of dentistry, focusing upon the first class, which enrolled in the fall of 1969. The school is characterized by innovative curriculum, faculty and administration. One aspect of this innovativeness is the introduction of students to clinic experiences early in their first year of training. Kadushin (1969) found in a study of music students that early occupational role experience was associated with heightened occupational self-identity and lowered evaluations of student roles. Thus, structural factors within the socializing system appear to be potentially important influences requiring investigation.

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The broad perspective of professionalization adopted for this paper involves changes in perceptions of the profession and of self relative to the profession. It might be assumed that changes in one perceptual realm would be associated with changes in others. Therefore, relationships between occupational orientation and self-perception and between occupational orientation and academic performance are explored to determine the validity of an assumption of perceptual congruence.

In summary, this paper deals with changes in students' ideas about the profession for which they are preparing and about themselves as neophyte professionals. It evaluated the degree of congruence among certain perceptual and behavioral realms and examines some of the interactional and structural influences upon perceptual change within the social milieu of a professional school.

METHOD

The research on which this report is based comprises the first two years of a longitudinal investigation being conducted at a new school of dentistry, beginning with its first class. The study is projected as a six-year effort that is multi-dimensional in design. Since the site for this research is a new dental school, the number of subjects on which there are complete sets of data is rather small, twenty-three students and twenty-nine faculty members. While the number of subjects constitutes something of a limitation as far as analysis is concerned, it facilitates intensive data collection techniques and affords a greater opportunity to examine closely each of the subjects.

Data were collected through the two years using a variety of techniques, including self-report questionnaires, structured and unstructured interviews and extensive field observation. The general questionnaire utilized in the first two years was administered to the initial freshman class at the beginning and end of the first year and again at the end of the second year. The faculty

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form of this general questionnaire was administered one month prior to the beginning of the first school term. Contained within both student and faculty versions of the questionnaire were several questions developed by Quarantelli and Helfrich (1967) which dealt with student and faculty views about the dental profession. Specifically, the students and the faculty were asked to respond to three Likert-type summated inventories concerning their judgments of the most salient advantages and disadvantages of dentistry and the most important characteristics of a "good" dentist. The subjects' responses to these measures provided the foundation for the comparative evaluation of the students' professional orientations with those of the faculty in a manner congruent with the theoretical perspective adopted in this project.

The judgments of the faculty on the three instruments were weighted and a summated score was derived for each item in the inventories. Based upon these scores, the items in each inventory were rank ordered according to faculty evaluations. The same procedure was followed for students' responses from three test administrations--at the beginning and the end of the first year and at the end of the second year. Additionally, an overall summated score for each of the three areas of occupational orientation was calculated for each student. In this way rank ordered listings of the most important advantages and disadvantages and the most important characteristics of a "good" dentist were derived for the students over a two-year time span.

In order to ascertain whether or not the students' evaluations of these three aspects of dentistry manifested increased or decreased congruence with the faculty's views over time, a Kendall rank ordered correlation was calculated between the faculty and student listings. Faculty responses were correlated with students' responses on each of the three measures at the beginning and end of the first year and again with the students' responses at the end of the

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second year. This procedure generated three coefficients of correlation for each of the three inventories. The nine resulting coefficients provided an indicator of the degree of association between the two groups' rank ordered judgments concerning three aspects of the dental profession at three points in time. The difference between the correlation coefficients for the faculty and the students' views at each point in time reflects the direction of changes in students' perceptions and represents the degree of increased or decreased congruence of students' views with those of the faculty.

Utilizing the overall summed score on each of the three tests, the students were placed in one of three rank ordered categories designated as high, medium and low based upon the congruence of their scores with those of the faculty. This procedure provided each student with three separate categorical rankings. These three individual ranks were themselves then summed and rank ordered and the resultant range of the summed rankings for all the students was divided into the three categories of high, medium and low. In this way a pooled rank ordered classification of each of the students was derived which reflected his relative standing with fellow students regarding three separate features of his orientation toward the profession of dentistry. For the purposes of this paper this pooled rank ordered classification will be designated as the student index of professional orientation (IPO).

In order to discern the students' identification with the self-concept of "dental student" or "dentist," the subjects were administered a dental student to dentist continuum rating scale utilized by Quarantelli and Helfrich (1967) in their four-year investigation of dental students. The respondents were asked at the beginning and the end of the first year and at the end of the second year to indicate where they saw themselves and where they perceived faculty and patients would place them on a continuum ranging from 1.0,

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representing total student identity, to 10.0, representing total dentist identity. A mean score was then derived from the students' ratings at each point in time and a modified t-test for related samples in time series was employed to test for the statistical significance of any differences between these three mean scores. The Goodman and Kruskal gamma formula (1954) was used to test for the degree of association between students' placement of themselves and their perceived ratings for the faculty and patients. The gamma formula was also applied to the self-ratings and IPO classification for each individual student to test for the degree of association between student self-conceptualizations and professional orientations.

The operational procedures relative to the variable of student self-concept afford the opportunity to determine whether significant alteration did occur in self-definitions, whether or not self-perceptions were significantly associated with projected evaluations of faculty and patients and whether or not self-perceptions were significantly associated with professional orientations.

Data on students' academic performance consisted of cumulative grade point averages taken at the end of the first and second years. The averages for the respondents were rank ordered from the highest to the lowest for each time period and then divided into three separate levels labeled as high, medium and low. The Goodman-Kruskal gamma test was applied to these categories and students' IPO to determine the degree of association between professional orientations and levels of academic performance.

FINDINGS

Three basic sets of information have been isolated for examination in this paper and following the procedures outlined in the methods section the

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findings relative to these areas will be presented here. The areas to be reviewed include:

(a) the nature of students' professional orientations and the degree of congruence between student orientations and those of the faculty;

(b) the nature of students' self-conceptualizations, the degree of change in these self-definitions and the degree of association betewwn their self-concepts and their professional orientations;

(c) the levels of students' academic performance and the degree of association between this performance and their professional orientations.

In Table I are presented the coefficients of rank order correlation between student and faculty perceptions of the dental profession at three points in time along with notations of the numerical differences between the coefficients in each set. The data for the first year indicate that students' perceptions of the most desirable attributes of a "good" dentist at the beginning of the year were more congruent with the faculty's opinions than their perceptions concerning the most salient advantages and disadvantages of the profession. Their judgments concerning these characteristics also underwent a substantial amount of change over the first year, and indicated a major movement in the direction of heightened consensus with the faculty's views. The students' evaluations of the most important disadvantages of dentistry were slightly less congruent with the faculty's ratings at the beginning of the first year but underwent the greatest degree of modification during the year. Like the changes in the characteristics inventory, these alterations were also in the direction of increased similarity with the judgments of the faculty.

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TABLE I

Coefficients of Rank Order Correlation Between Student and Faculty Perceptions of the Dental Profession at Three Points in Time.

Inventory	September 1969	May 1970	May 1971
Characteristics of a good Dentist	.66*	.78*(+.12)	.74*(-.04)
Disadvantages of Dentistry	.55*	.70*(+.15)	.63*(-.07)
Advantages of Dentistry	.18	.17 (-.01)	.16 (-.01)

* — correlation significant at .01 level

Students' perceptions of the most favorable features of the field of dentistry were atypical of the basic trends noted in the other two checklists. Not only were their views extremely divergent from those of the faculty when they began the training program but these views remained virtually unchanged during the year. Moreover, minor adjustments in the rankings that did occur were in the direction of greater disparity with the faculty's judgments.

The data concerning the second year of the students' training manifest a different pattern from that of the first year in that all three areas of occupational attitudes demonstrated a slight general trend toward decreased association with the faculty's views. Students' perceptions of the most salient disadvantages of the profession at the end of the second year declined more in its congruence with faculty judgments than either of the other two areas. Their opinions of the most desirable characteristics of a "good" dentist also underwent reduction in its degree of congruence with faculty views but still maintained

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the highest level of association of the three spheres of occupational attitudes. Students' evaluations of the most salient advantages of the dental profession again remained virtually unchanged but did indicate a very slight movement toward increased disparity with the faculty's opinions. This dimension of the students' occupational orientation still continued to be atypical of the basic trends in the data in that the relationship between student and faculty ratings on this aspect of their professional orientations was at a markedly lower level of congruence than their responses to the other two checklists.

Following the analysis of the broad changes in each of the three evaluation inventories, attention may be directed to a sharper focus upon the patterns of change relating to specific items within the checklists. The data relative to changes in students' rankings between the beginning and the end of the first year and between the end of the first and the second year for each item in the three inventories were tested for statistical significance by utilizing the Wilcoxon matched-pairs signed-ranks test. Of the fourteen items in the disadvantages of dentistry checklist, five changed at or beyond the .05 significance level during the first year of training. All five items changed in the direction of increased importance. These items were (a) "the lack of appreciation by patients of the nonmechanical skills of the dentist," (b) "the thinking by people that the dentist is not much more than a mechanic," (c) "working in a dirty part of the body," (d) "the fact that the total responsibility for the work done is solely that of the dentist himself," and (e) "the heavy cost of the initial investment in setting up practice." No statistically significant changes in student evaluations were found for any of the fourteen items in the advantages of dentistry inventory during the first year, but eight of the sixteen attributes listed in the characteristics of a good dentist checklist did manifest significant alteration at the .05 level or beyond. Six of the

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eight characteristics reflected changes toward greater perceived importance and consisted of (a) "skillful managment of time," (b) "ability to handle people," (c) "recognition of one's own limitations," (d) "emotional stability," (e) "dignified appearance," and (f) "good business sense." The two characteristics that declined in importance were (a) "outgoing and extrovert personality," and (b) "good research ability."

In sharp contrast to these findings an analysis of the changes in student orientations occuring in the second year failed to reveal any statistically significant alterations in student judgments in any of the three inventories.

A review of the items that underwent significant changes in students' evaluations during the first year reveals that many of the items are integrally associated with their clinic experiences. Evidence of the relationship between the changes in students' judgments and their clinic experience is apparent in the increased saliency of such statements as "the lack of appreciation by patients of the nonmechanical skills of the dentist" and "the thinking by people that the dentist is not much more than a mechanic." Students' participation in the clinics obviously offered an opportunity for them to encounter the negative evaluations of patients regarding the dental practitioner as documented in other investigations. Extensive observation at the dental clinic as well as interviews with the students during the year provided support for the conclusion that the subjects did experience negative evaluations among the patients they treated and that this experience did affect their views of dentistry.

Other statements concerning the disadvantages of dentistry, such as "working in a dirty part of the body," which increased in saliency also point to the relevance of clinic experience. The students did in fact encounter a variety of severe dental problems in their clinic work which constituted a source of reality shock for many of them and helped in fostering an image of

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the mouth as a dirty part of the body.

In the characteristics of a good dentist inventory, the heightened importance of such attributes as "skillful managment of time," "ability to handle people," "recognition of one's own limitations," and "a dignified appearance" all point to the probable influence of clinic experience upon the students' perceptions by the very nature of the characteristics themselves. All of these characteristics are closely tied with dentist-patient role relations and are essential for the successful enactment of the role of dentist. Observations of the clinic activities and data gathered from unstructured interviews generally support this pattern of influence.

The findings concerning students' self-conceptualizations reveal that the mean score at the beginning of the first year was 1.17, where 1.0 represents complete identification with the concept of dental student. By the end of the first year, however, the students had substantially altered their definitions of themselves such that their mean score on the self-concept scale was 3.08. Utilizing the modified formula of the t-test for related samples in time series, the difference between these two means was found to be statistically significant at the .001 level.

An examination of student self-conceptualizations at the end of the second year indicates that the subjects had again modified their views as reflected by a mean scale score of 5.18. Through the use of the modified t-test formula, the difference between students' mean scores at the end of the first year and the end of the second year was also found to be statistically significant at the .001 level.

The Goodman-Kruskal gamma formula was employed to determine whether changes in students' self-perceptions over the two-year period were significantly associated with the changes they perceived in the evaluations of faculty and patients. The comparison of changes in self placement with changes in perceived

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faculty rating produced a gamma of .81. There was a .58 gamma association between changes in self evaluations and changes in perceived patient assessments. Following interpretation instructions by Goodman and Kruskal that the gamma is directly comparable to the correlation coefficient, it is determined that the self-faculty gamma of .81 is statistically significant at the .01 level and the self-patients gamma of .58 is significant at the .05 level.

Overall, the basic trend in students' self-conceptualizations is quite clear. During the course of the two years of study, the subjects moved steadily toward greater identification with the concept of dentist rather than that of dental student. Informal interviews with the students suggest that the structured opportunity for the enactment of the role of dentist very early in their training fostered heightened self-conceptualizations of themselves as dentists. Data from the interviews and field observations also indicate that students tended to advance more toward a view of themselves as dentists when they were able to establish relationships with the faculty which were more informal than formal in nature and which were oriented more toward a dentist-to-junior colleague character than strictly a dentist-to-dental student one.

The degree of association between students' professional orientations and their self-conceptualizations at the end of the first and second years was assessed by means of the Goodman-Kruskal gamma statistic. The results indicate that no statistically significant association was evidenced between students' IPO and their self-concept scores at the end of either the first or the second year.

The varying levels of students' academic performance, as measured by their cumulative grade point averages at the end of the first and second years, were similiarly tested for association with the subjects' IPO. The gamma results do not confirm the presence of a statistically significant association between the two variables at either point in time.

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DISCUSSION

In this paper we have sought to explore the emergent pattern of students' professional orientations, the assessment of selected factors that influenced formation of their attitudes, and the relationship between these views and their self-conceptualizations and academic performance. The findings of this investigation indicate that substantial change did occur in students' views during the first year of study. However, an examination of the rank ordered correlations between student and faculty judgments at the beginning and the end of the year and at the end of the second year reveals that while changes did occur in student views the significant alterations occured chiefly in the first year. Moreover, where students did modify their evaluations, it was primarily in the most important characteristics of a "good" dentist and the most important disadvantages of dentistry. Their ratings of the most favorable aspects of dentistry underwent virtually no change during the two years. The analysis further disclosed that those spheres of student attitudes that underwent the greatest change were also those which were more congruent at the first of the year with the faculty's views. In all areas except the advantages of dentistry the changes during the first year were strongly directed toward increased consensus with the faculty's attitudes. The second year, however, saw all three areas reflect a reversing trend toward increased dissimilarity. A more detailed analysis of the specific item adjustments in each of the inventories offered additional insights into the nature of these modifications in that it revealed that many of the changes were closely related to the students' clinic experiences.

These conclusions suggest that students' professional orientations are not phenomena predominately shaped by faculty influence alone and existing in a social vacuum isolated and separated from other elements within the social

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milieu of the socialization experience. Instead, the data demonstrate that the process through which students' professional attitudes are formed is one that operates within a highly interdependent social matrix in which a number of variables, such as student role enactment experiences, affect the nature and quality of student behavior and attitudes.

This view of the professionalization process is one that is shared by Quarantelli and Helfrich (1967). From their four-year study of dental students they conclude that the process whereby students develop appropriate orientations toward the profession was highly influenced by the students' clinic experiences. Their findings indicate that the effects of these experiences was most evident in the junior and senior segments of their sample. It should be noted, however, that the site of Quarantelli's study was a dental school, which unlike the locus for the research for this paper, postponed student exposure to clinic practice until precisely the junior and senior years.

The subjects of this report's analysis have encountered clinic experiences comparable to that of Quarantelli's sample since the first part of their freshman year. Thus, they would be expected to be sensitive to many of the same influences that swayed Quarantelli's juniors and seniors, especially participation in clinic activities.

Support for the existence of such influences has already been offered through the analysis of those items within the three student professional attitude inventories that underwent significant changes during the two years. Although the minor movements in student judgments in the second year toward greater disparity with the faculty's views might well be an artifact of the sensitivity of the correlation coefficient to very slight changes in rankings due to the limited number of subjects, the effects of clinic experience might also have some bearing. Specifically, student ratings might well be reflecting

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the increasing influence of the clinic activities in shaping their professional orientations which could offer greater competition with faculty influence for independent effects on the dependent variable and subsequently lead to a decreasing degree of association between student and faculty views. Partial results from the preliminary analysis of new bodies of data seem to offer some further substantiation for this interpretation.

While no statistically significant association was found between students' IPO and their levels of academic performance and between their IPO and self-concept scores in either of the two years, significant modification is students' self conceptualizations was noted during each year of the training program. In every instance movements in self-perceptions were toward ever-increasing conceptualizations of themselves as dentists.

The gamma statistic computed for the degree of association between students' placement of themselves and their perceived ratings by the faculty and patients on the self-concept scale indicated that both groups of referents were influential in shaping student self-identities. Of the two groups, the faculty apparently had the more significant impact on students' self-definitions. Obviously the students' impressions of patient evaluations were derived from the concrete reality of clinic experience. Therefore, the importance students attached to patients' assessments is further confirmation of the significant impact of clinic activities within students' professional development.

The findings pertaining to students' self-conceptualizations have pointed to certain key referents within the processes forging professional identities. These results have also revealed several probable influences upon changes in students' professional self-views. In particular, the data indicate that the rate with which alterations in student self-perceptions occurred was rather accelerated in nature. When the means for students' self-concept scores

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are compared at three points in time, the resultant differences are substantially greater than those evidenced by Quarantelli's sample for comparable time periods.

Since a major factor that distinguishes the school which was the site for this research from that of Quarantelli's investigation is the structured opportunity for early student contact with clinic patients, this factor may well prove fruitful in interpreting the heightened pace of students' emergent identification with the self-concept of dentist.

The potential explanatory power of this perspective has recently been advanced by Kadushin's (1969) comparative study of the professional self-concept of music students. He reports that advancement by students toward an increased professional self-concept is more a result of their opportunities to actually play the role for which they are training than other variables within the socialization setting.

In conclusion, the findings of this study reveal that the formation of students' perceptions about their occupation and themselves as well as the levels of academic performance they manifest develop in a complex differentiated pattern in which modifications and alterations occur at unequal rates and perhaps in multiple directions.

Although the present body of knowledge has identified many of these variables, what remains are more detailed examinations of how these separate factors operate interdependently to produce the unique patterns exhibited within the process of professional socialization. To this end it would appear that future research efforts might best be designed so as to be multi-dimensional in nature, comparative in focus and longitudinal in duration. The data from such designs could provide much of the information that is needed in order to formulate more effective general explanatory models of professional socialization.

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REFERENCES

Becker, Howard S., and James W. Carper
1956 "The development of identification with an occupation." American Journal of Sociology 61 (January): 289-298.

Becker, H.S., and Blanche Geer
1958 "The fate of idealism in medical school." American Journal of Sociology 63 (February): 50-56.

Becker, H.S., et.al.
1961 Boys in White: Student Culture in Medical School. Chicago: University of Chicago Press.

Caplow, Theodore
1954 The Sociology of Work. Minneapolis: University of Minnesota Press.

Goodman, Leo A., and William H. Kruskal
1954 "Measures of association for cross classification." Journal of the American Statistical Association 49 (December): 732-764.

Gottlieb, David
1961 "Process of socialization in America graduate schools." Social Forces 40 (December): 124-131.

Ham, Thomas
1958 "Treating the medical student as a member of a graduate professional school," in Helen Gee and Robert Glasex, eds., "The ecology of the medical student." Journal of Medical Education 33 (October): 61-77.

Kadushin, Charles
1969 "The professional self-concept of music students." American Journal of Sociology 75 (November): 389-404.

Lortie, D.C.
1959 "From layman to lawman: law schools, careers, and professional socialization." Harvard Educational Review 29 (Fall): 352-369.

Merton, Robert K., G.C. Reader, and P. L. Kendall
1957 The Student-Physician: Introductory Studies in the Sociology of Medical Education. Cambridge: Harvard University Press.

Moore, Wilbert E.
1970 The Professions. New York: Russell Sage Foundation.

More, D.M. and Nathan Kohn
1960 "Some motives for entering dentistry." American Journal of Sociology 66 (July): 48-53.

Quarantelli, Enrico L. and J. Cooper.
1966 "Self-conceptions and others: a further test of median hypotheses." Sociological Quarterly 7 (Summer)

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Quarantelli, Enrico L., and M. Helfrich
1967 The Professionalization of Dental Students. Final report to the Division of Dental Health, Public Health Service, United States Department of Health, Education and Welfare. Columbus, Ohio: Ohio State University.

Rosinski, Edwin F.
1963 "Professional, ethical, and intellectual attitudes of medical students." Journal of Medical Education 38 (December): 1016-1022.

Wilensky, H.L.
1964 "The professionalization of everyone?" American Journal of Sociology 60 (September): 137-158.